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USDOC FOR 532/OEA/M. NICKSON-DORSEY/L. RITTER USDOC FOR 3131/USFCS/OIO/ANESA/KREISSL USDOC FOR 4530/MAC/ANESA/OSA ICE HQ FOR STRATEGIC INVESTIGATIONS STATE FOR EB/ESP

E.O. 12958: N/A

TAGS: ETTC ETRD BEXP IN

SUBJECT: EXTRANCHECK: POST-SHIPMENT VERIFICATION: AERONAUTICAL DEVELOPMENT AGENCY, MINISTRY OF DEFENCE, BANGALORE, LICENSE NO. D345130

REF: USDOC 04368

- 11. Unauthorized disclosure of the information provided below is prohibited by Section 12(c) of the Export Administration Act.
- 12. Export Control Officer (ECO) Michael Rufe and CS FSN Prem Narayan conducted a Post-shipment Verification (PSV) at the Aeronautical Development Agency (ADA), Bangalore on September 11, 2006.
- 13. BIS requested a PSV on ADA, an entity under the Ministry of Defence (MOD), GOI. ADA was listed as the Ultimate Consignee for two Model MBG-1049A bulk acoustic wave delay devices (BAW) controlled under ECCN 3A001. The license applicant was Teledyne Wireless, Inc. (Teledyne), Mountain View, CA.
- 14. Rufe met for approximately 2 hours with T. Parthasarathy (Parthasarathy), Group Director-Electro Magnetic & Optical System;

  1K. Lakshmikanthan (Lakshmikanthan), Scientist 'G' and Joint Director (A&C); Prakasha, Deputy Project Director (PMG), Program Management; and C.H. Rao (Rao), Deputy Director (Commercial), ADA. The appointment was facilitated by Viraj Singh, Deputy Secretary (AMS) to the GOI, Ministry of External Affairs (MEA). Singh was also present at the meeting.
- 15. ADA officials were somewhat aware of the BIS export regulations. Parthasarathy recalled that a team from the American Consulate General, Chennai, conducted an end-use check at ADA 3-4 years ago. Rao provided a copy of the ADA Purchase Order, Teledyne Invoice, ADA End-User Undertaking, a Teledyne letter dated November 3, 2005, prior to license approval requesting ADA acknowledge and abide by five BIS export license conditions and a Teledyne letter to Rao dated July 31, 2006 informing ADA that the conditions specified in the earlier letter, sent prior to license approval, continue to apply.
- 16. Parthasarathy confirmed the stated end-use of the BAWs to be used for testing of the radio altimeter on the Light Combat Aircraft (LCA). He stated that BAWs are used to measure the C-band frequency range of the radio altimeter. A BAW's range is 1.5 kilometers and using both BAWs provides results for 3 kilometers. ADA earlier used BAWs for a similar purpose but in a shorter-range capacity. The radio altimeter is calibrated once every three months. After calibration, the radio altimeters are mounted on the LCA, three of which are located at the ADA facility for testing.
- 17. At the start of the meeting, they brought the two BAWs to the conference room for the PSV and provided a slide presentation on ADA and the LCA. They declined the ECO's request to visit the laboratory/testing area where the BAWs are actually used. They

stated that neither the BIS team nor the MEA official were security cleared to visit that area. Prakasha stated that once the calibration of the radio altimeter is carried out the BAWs are stored properly in an ADA storage area. ECO Rufe verified the model and recorded the BAW serial numbers. ADA conducts approximately 38 LCA flight tests per week. ADA has so far successfully conducted 561 flight tests for the LCA-Tejas model.

- 18. Established, in 1984, ADA is a national consortium under the auspices of the MOD's Defence Research and Development Organization (DRDO). The LCA program was launched in 1983 primarily to replace the MiG-21 aircraft used by the Indian Air Force. ADA is involved in a number of major activities in LCA design and development. LCA is built with state-of-the-art technology design and analysis tools and production facilities. The combined experience of the Indian aircraft design, production and product support industry is pooled together under the aegis of ADA. ADA's major activities include design and analysis, testing and qualification, avionics and flight control, simulation, weapon systems, flight-testing, LCA production, and software development. Currently, engines for the LCA-Tejas are supplied by General Electric (GE). ADA is also developing an-indigenous Kaveri engine for their LCAs with Russian assistance. ADA employs 500 personnel including 350 scientists.
- 19. Recommendation: Despite ADA not permitting ECO Rufe to visit the area where the BAWs are actually used, all indications were that the listed commodities are used in accordance with the terms of the export license and that the Aeronautical Development Agency appears to be a reliable recipient of sensitive U.S.-origin technology for this transaction. (MRUFE) Mulford